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**PRO-FX MODULE 516 PARAMETRIC EQUALIZER  
PRELIMINARY SERVICE DATA**

Manual No. TN516-0  
Issued: September, 1982

Nijverheidsweg 11c  
3641 RP Mijdrecht  
Netherlands  
02979-6211  
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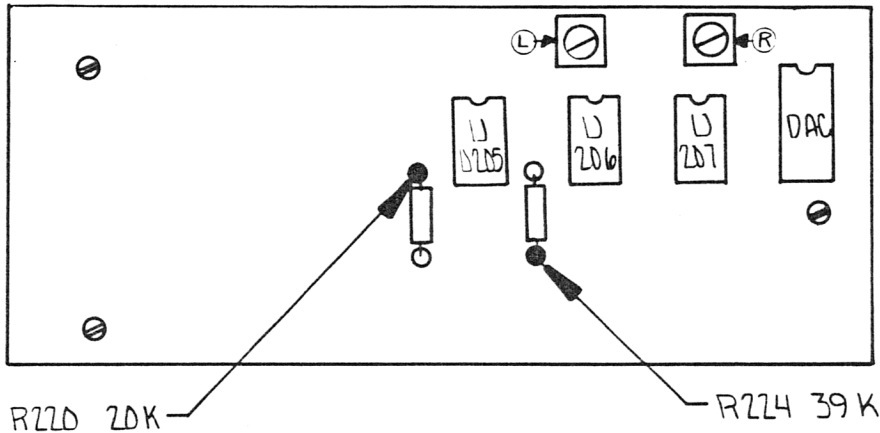
**PRELIMINARY INFORMATION**

**All subject to change.**

U119 8255 Programmable Peripheral Interface has three bus groups, denoted PA, PB and PC. The PA bus provides switch bits to U109 switch latch. The PB bus accepts the four switch inputs, plus low signals from Q107 and Q108 which code the number of pots and DACs. The PC bus outputs the switch latch strobe, pot and S/H addresses and strobes to the Vadc multiplexer and Vdac demultiplexer. The Vadc multiplexer sequentially samples the pots to be digitized by the ADC window comparator in the System Controller. The Vdac demultiplexer serves two purposes. First, it supplies control voltages to the filter frequency VCAs. Secondly, it supplies a -CS to the DACs which control input level, EQ and bandwidth. The data for these DACs are provided by the PA bus during the -CS strobe.

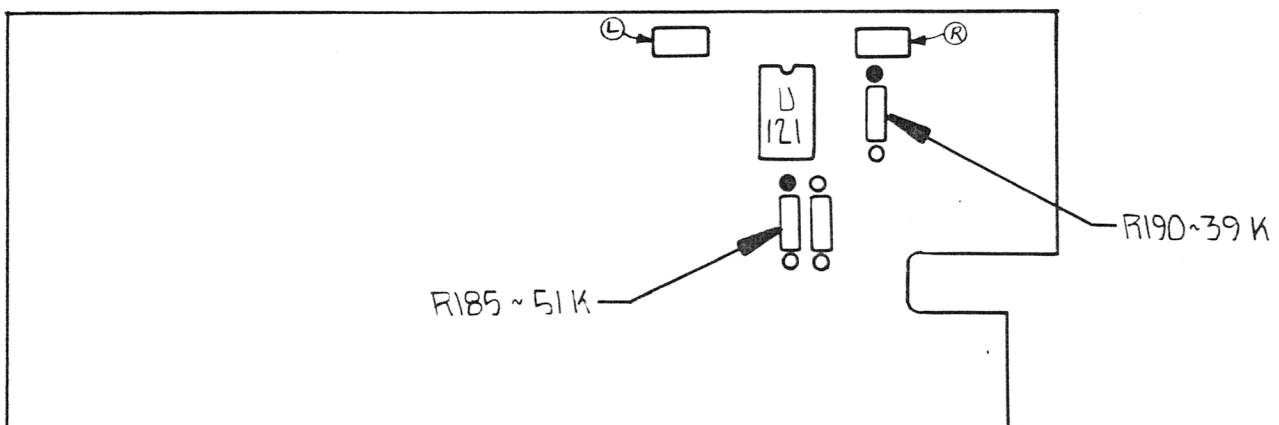
## CHECK/TRIM PROCEDURE

1. Connect module to Motherboard using Extension Card (SCI #PC500-4-0).
3. Power up and switch PRESET off, to enter Manual Mode. Center all pots.
4. Using both scope probes, probe the following test points on the upper board, PCB 2.
  - a) TP U205/7 Top side of R224 (used to trim R trim pot)
  - b) TP U205/1 Bottom for R220 (used to trim L trim pot)



c) Set scope to 5 mV range, and trim for least movement between zero and full settings of LF FREQ knob (outside ring). NOTE: The trimmers interact, so repeat trim until no further improvement can be made. Increase scope sensitivity to obtain final balance.

- 5) Probe the following test points on the lower board, PCB 1.
  - a) TP J117/1 at the bottom of R190 is for the R trim
  - b) TP J117/7 at the bottom of R185 is for the L trim



c. Trim same as as upper board, except using HF FREQ knob (inner knob).

6. Measure POT REF voltage at ungrounded side of any pot, and trim, if necessary to 5.10 +.05/-0.00V.

## PARTS

X-1	PCB 1
C101-11	C-045 .1 uF 50V
C112	NOT USED
C113	C-004 100 pF 50V
C114	C-060 1 uF Mono
C115-17	C-045 .1 uF 50V
C118/19	C-060 1 uF MONOLITHIC
C120	C-004 100 pF
C121	C-060 1 uF MONOLITHIC
C122/23	C-045 .1 uF 50V
C124	C-060 1. uF MONOLITHIC
C125-27	C-045 .1 uF 50V
C128	C-033 33 pF 50V
C129/30	C-045 .1 uF 50V
C131	NOT USED
C132	C-063 68 pF 50V
C133	C-003 33 pF 50V
C134	C-058 180 pF
C135	C-060 1 uF MONOLITHIC
C136	C-045 .1 uF 50V
C137	C-060 1 uF MONOLITHIC
C138/39	NOT USED
C140	C-060 1 uF MONOLITHIC
C141	NOT USED
C142	C-045 .1 uF 50V
C143	C-058 180 pF
C144	C-039 1000 pF POLY
C145/46	C-012 .01 uF
C147/48	NOT USED
C149	C-004 100 pF 50V
C150	C-012 .01 uF
C151	C-004 100 pF 50V
C152	C-012 .01 uF
C153/54	C-004 100 pF 50V

C155	C-060 1 uF 50V
C156/57	C-045 .1 uF 50V
C158	C-060 1 uF MONOLITHIC
C159	NOT USED
C160	C-055 47 uF 35V
C161-64	C-021 2.2 uF TANT
C165	C-060 1 uF MONOLITHIC
C166/67	C-045 .1 uF 50V
C168	C-060 1 uF 50V
C169	C-004 100 pF 50V
C170-72	C-003 33 pF 50V
C173	C-036 10 pF 35V
C174	C-021 2.2 uF TANT
C175	C-003 33 pF 50V
C176	C-036 10 pF 50V
D101	D-005 1N914
D102	D-008 1N34
D103/4	D-005 1N914
D105/6	D-008 1N34
D107-31	D-005 1N914
D132	D-008 1N34
D133	D-005 1N914
D134/35	D-008 1N34
D136	D-005 1N914
DS101-5	see S101-5
J101/2	J-048 1/4" MONOLITHIC PHONE
J103-6	J-061 RT ANGLE SWITCH SOCKET
J107	Z-222 LED CONNECTOR HARNESS (E-009 TEFLON; E-108 WIRE; J-066 MINI HOUSING; J-067 PINS)
P101/2	P-048 20-PIN HEADER
Q101-5	T-002 2N3904
Q106	T-003 2N4250
Q107/8	T-002 2N3904
<u>NOTE:</u>	<u>SCI #R-001 THROUGH R-099 ARE 5%</u> <u>R-101 THROUGH R-177 ARE 1%</u> <u>R-200 THROUGH R-228 ARE POTENTIOMETERS</u>
R101/6	R-231 10K POT
R102	NOT USED
R103	R-231 10K POT
R104/5	R-230 10K DUAL POT
R107/8	R-230 10K DUAL POT
R109	R-211 5K TOP
R110	R-008 1K
R111/12	R-025 100K
R113	R-094 180K
R114	R-026 200K

R115/16	R-025 100K
R117-20	R-022 75K
R121-24	R-004 330
R125	R-038 18K
R126	R-017 39K
R127	R-066 300K
R128	R-028 470K
R129-33	R-025 100K
R134	R-008 1K
R135	R-026 200K
R136/37	R-038 18K
R138	R-026 200K
R139	R-008 1K
R140	R-026 200K
R141	R-018 47K
R142	R-038 18K
R143	R-026 200K
R144/45	R-018 47K
R146	R-041 150K
R147	R-026 200K
R148	R-018 47K
R149	R-025 100K
R150	R-066 300K
R151	R-028 470K
R152	R-401 9.1K
R153	R-062 5.6K
R154	R-056 51K
R155	R-012 10K
R156	R-041 150K
R157/58	R-018 47K
R159	R-026 200K
R160/61	R-018 47K
R162	R-026 200K
R163	R-018 47K
R164	R-026 100K
R165	R-018 47K
R166/67	R-026 200K
R168	NOT USED
R169/70	R-025 100K
R171	R-012 10K
R172/73	R-025 100K
R174	R-017 39K
R175	R-056 51K
R176	NOT USED
R177	R-061 4.7M
R178	R-099 680
R179	R-214 100K POT
R180	750K
R181	R-025 100K
R182	R-016 30K
R183	R-061 4.7M
R184	R-008 1K
R185/86	R-056 51K

R187	R-008 1K
R188	R-016 30K
R189	R-214 100K POT
R190	R-017 39K
R191	R-008 1K
R192	R-015 20K
R193	R-041 150K
R194	R-065 160K
R195-97	R-025 100K
R198	R-025 100K
R199	R-027 390K
R1100	R-026 200K
R1101	R-025 100K
R1102	R-039 18K
R1103	R-023 82K
R1104	R-073 24K
S101-5	S-057 SWITCH W/ LED
U101	I-305 741 OP-AMP
U102	I-324 5532 DUAL OP-AMP
U103/4	I-505 AD7524
U105	I-211 4051 8-IN ANA MUX
U106	I-324 5532 DUAL OP-AMP
U107	I-505 AD7524
U108	I-211 4051 8-IN ANA MUX
U109	I-228 4174 HEX LATCH
U110	I-243 4053
U111	I-209 4049 HEX INVERTER
U112	I-205 4013 DUAL FLIP-FLOP
U113	I-243 4053
U114	I-242 4070
U115	I-324 5532 DUAL OP-AMP
U116	I-242 4070
U117	I-325 TL072
U118	I-324 5532 DUAL OP-AMP
U119	I-045 8255 PPI
U120	I-312 TL082 DUAL OP-AMP
U121	I-326 3335
U122	I-324 5532 DUAL OP-AMP
U123/24	I-505 AD7524
U125	I-325 TL072
U126	I-408 79M15
U127	I-406 78M15

## PCB2

C201/2	C-045 .1 uF 50V
C203	C-063 68 pF 50V DISC
C204	C-045 .1 uF 50V
C205/6	C-060 1 uF MONOLITHIC
C207/8	C-045 .1 uF 50V

C209/10	C-060 1 uF MONOLITHIC
C211	C-059 1800 pF
C212/13	C-045 .1 uF 50V
C214	C-059 1800 pF
C215-18	C-004 100 pF
C219	C-060 1 uF MONOLITHIC
C220/21	C-045 .1 uF 50V
C222/23	C-036 10 uF 50V

D201	D-008 1N34
D202-13	D-005 1N914
D214	D-008 1N34

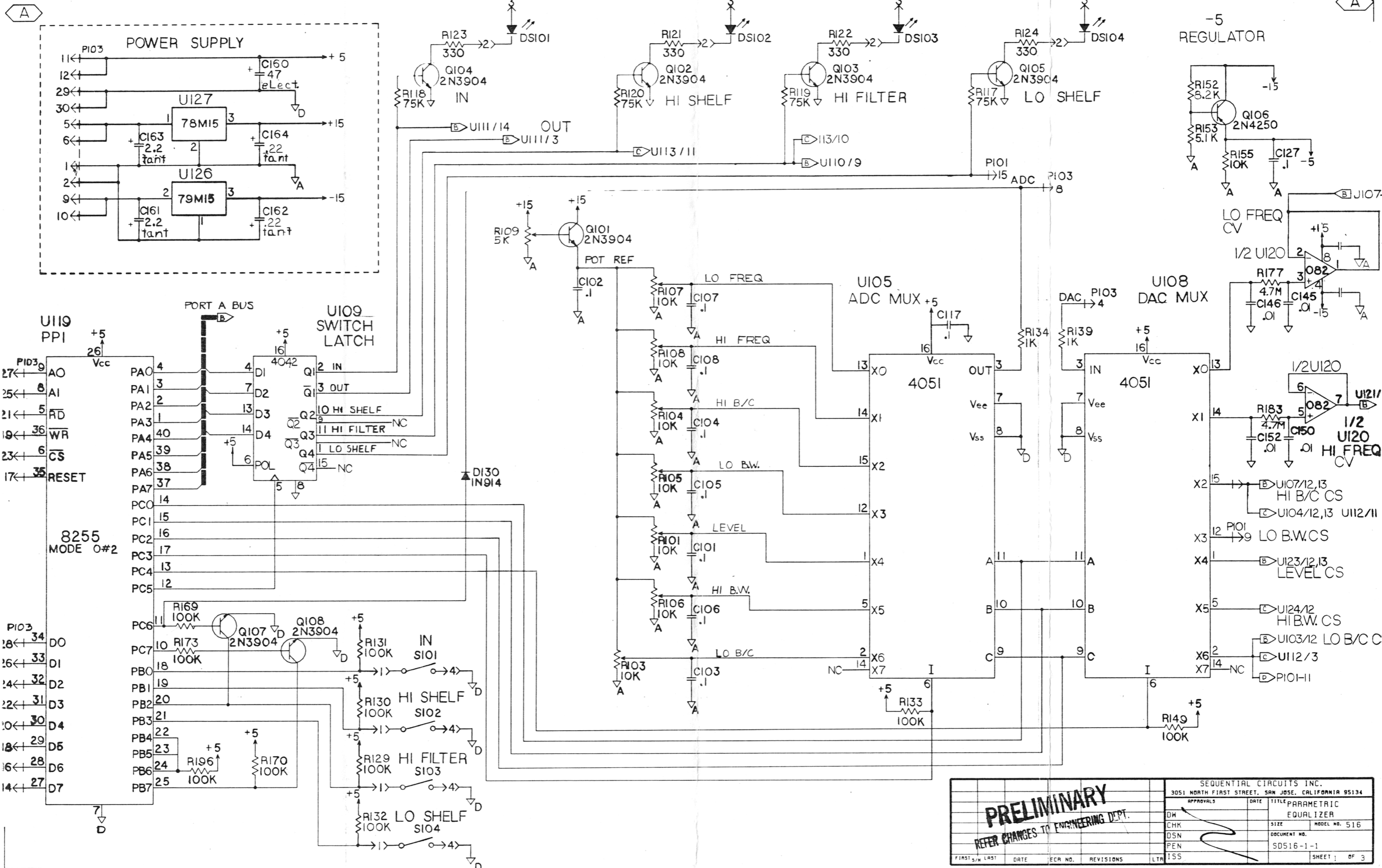
J201/2	J-065 10 X 2 PC SOCKET
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NOTE:      SCI #R-001 THROUGH R-092 ARE 5%  
R-101 THROUGH R-177 ARE 1%  
R-200 THROUGH R-228 ARE POTENTIOMETERS

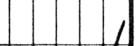
R201	R-025 100K
R202	R-017 39K
R203	R-056 51K
R204	R-012 10K
R205/6	R-018 47K
R207	R-038 8.2K
R208/9	R-018 47K
R210/11	R-026 200K
R212	R-023 82K
R213/14	R-018 47K
R215/16	R-026 200K
R217	R-018 47K
R218-20	R-015 20K
R221	R-214 100K POT
R222	R-041 150K
R223	R-025 100K
R224	R-017 39K
R225/26	R-008 1K
R227	R-099 680K
R228	R-079 6.8K
R229	R-008 1K
R230	R-214 100K POT
R231	R-041 150K
R232	R-025 100K
R233/34	R-020 62K
R235	R-008 1K
R236	R-026 200K
R237	NOT USED
R238	R-015 20K
R239	R-041 150K
R240	R-025 100K

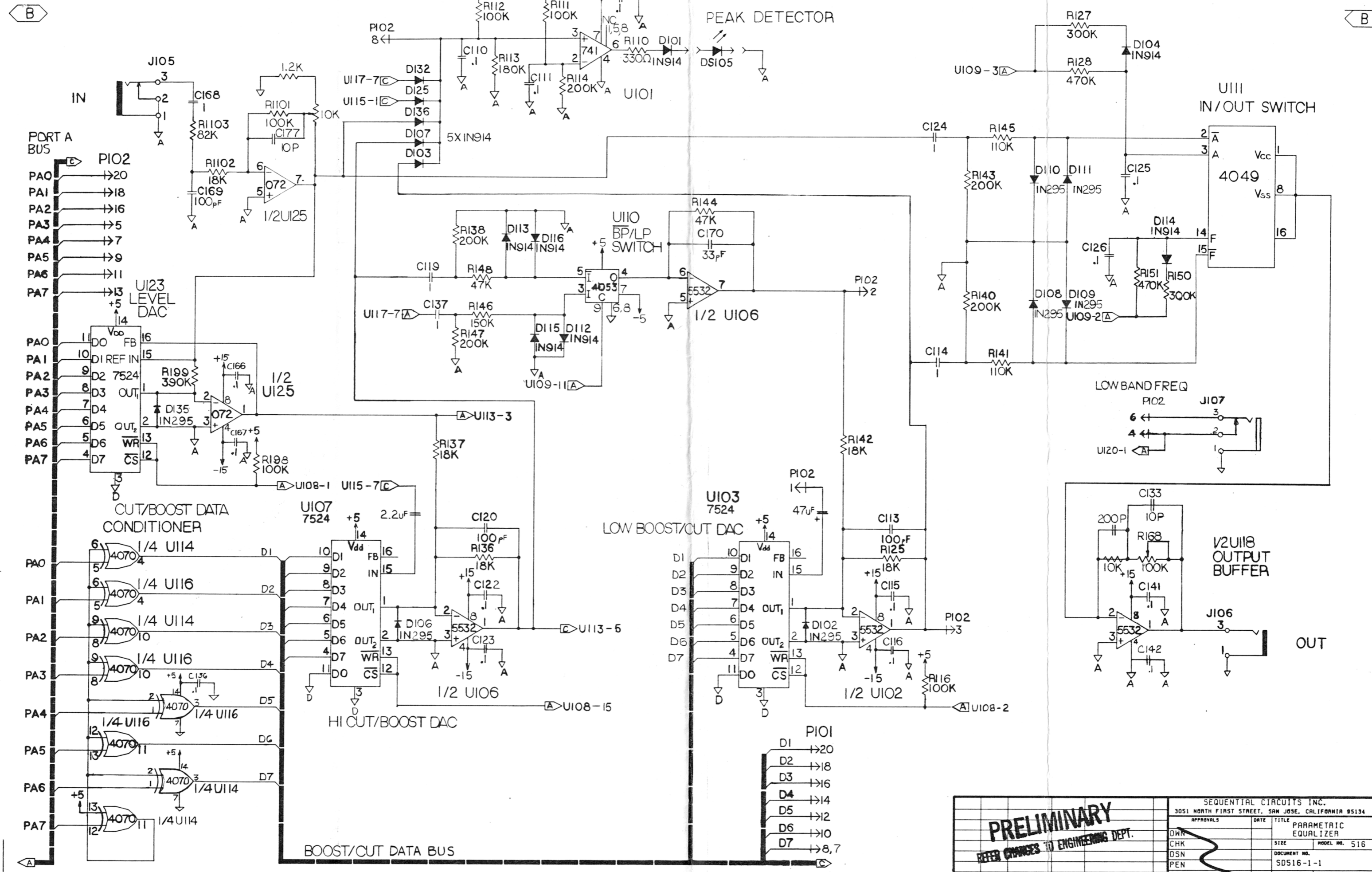
U201	I-505 AD7524
U202	I-324 5532 DUAL OP-AMP
U203	I-243 4053
U204	I-324 5532 DUAL OP-AMP
U205	I-325 TL072
U206	I-326 3335
U207	I-324 5532 DUAL OP-AMP
U208	I-505 AD7524





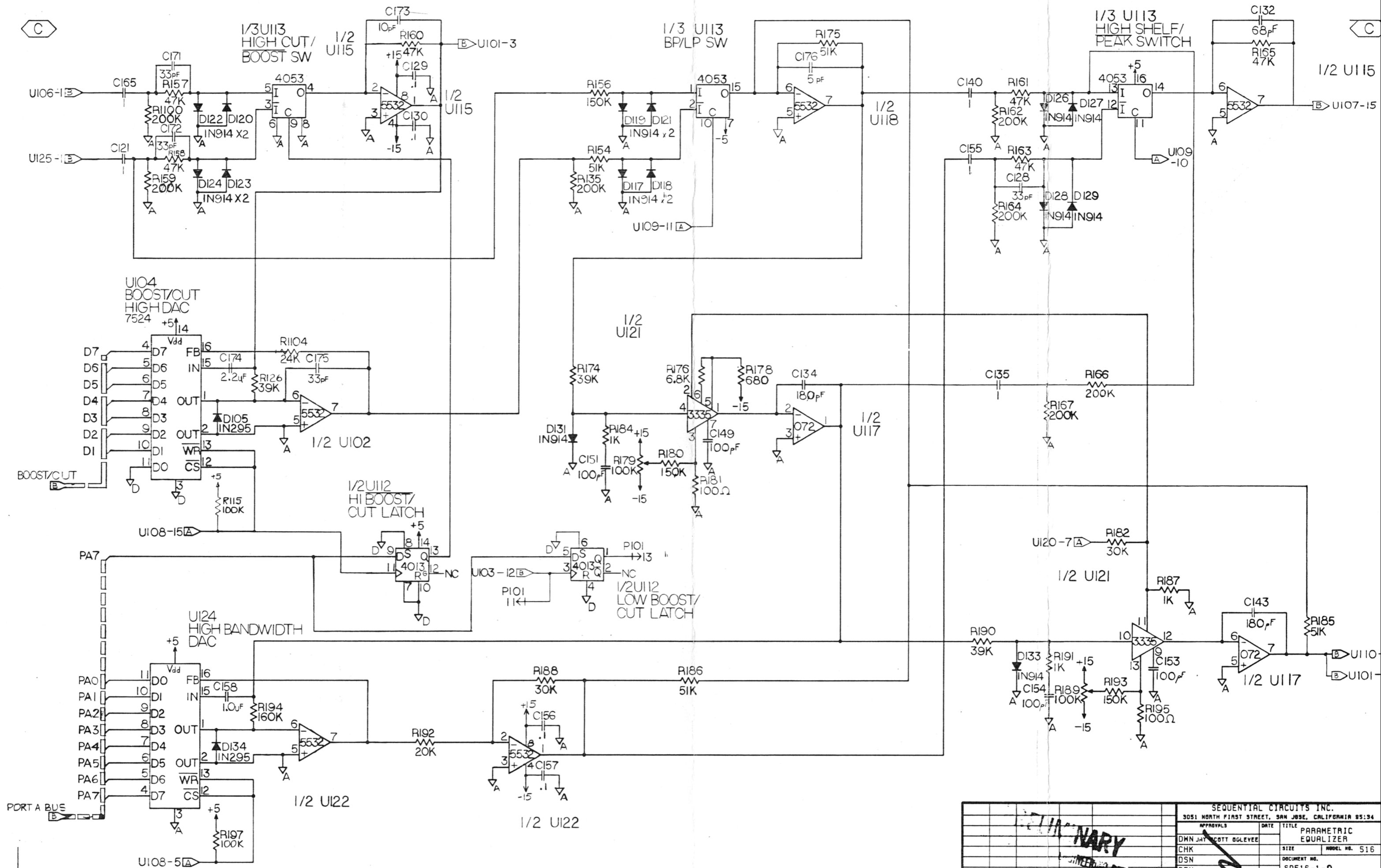
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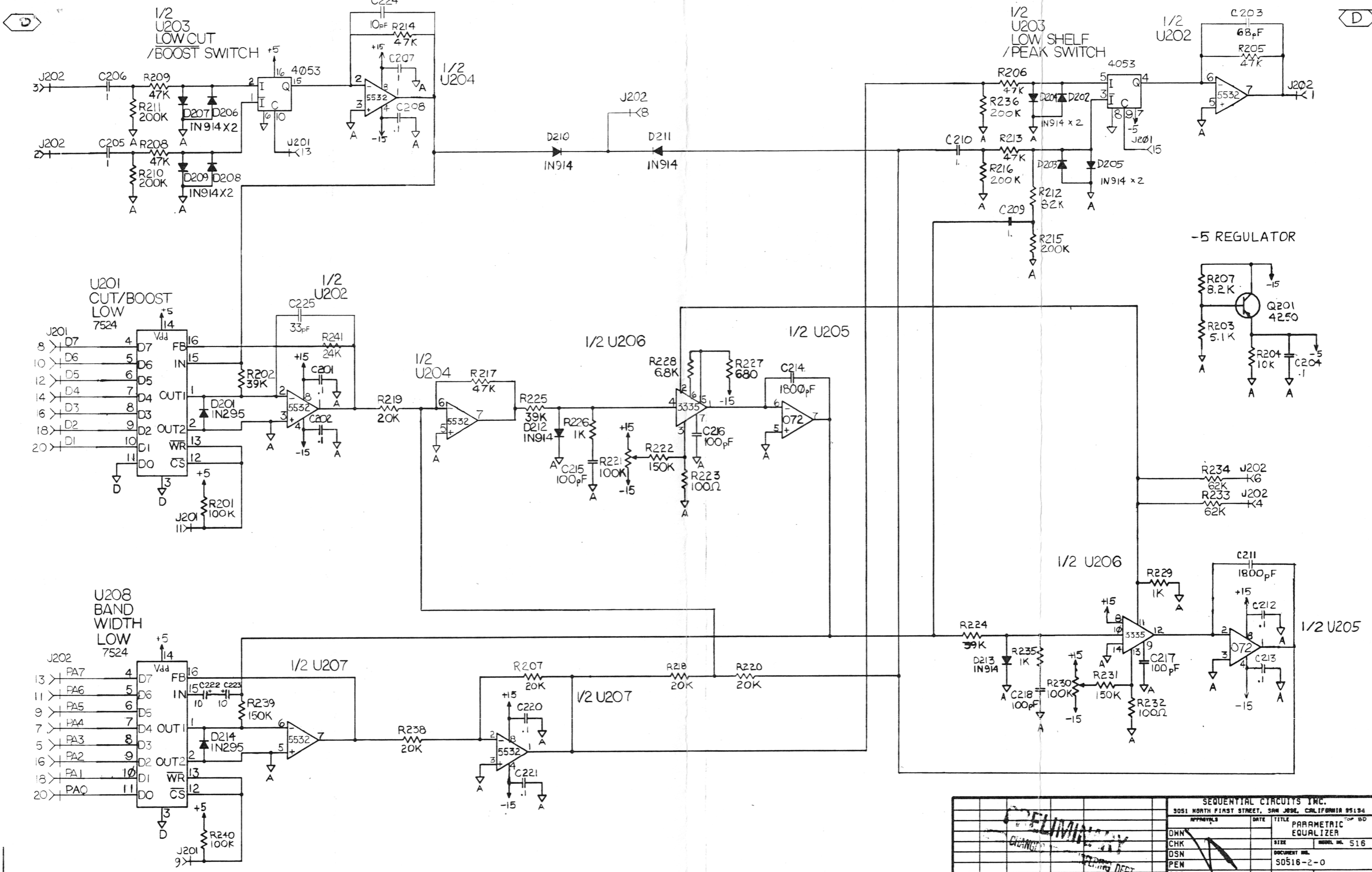
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